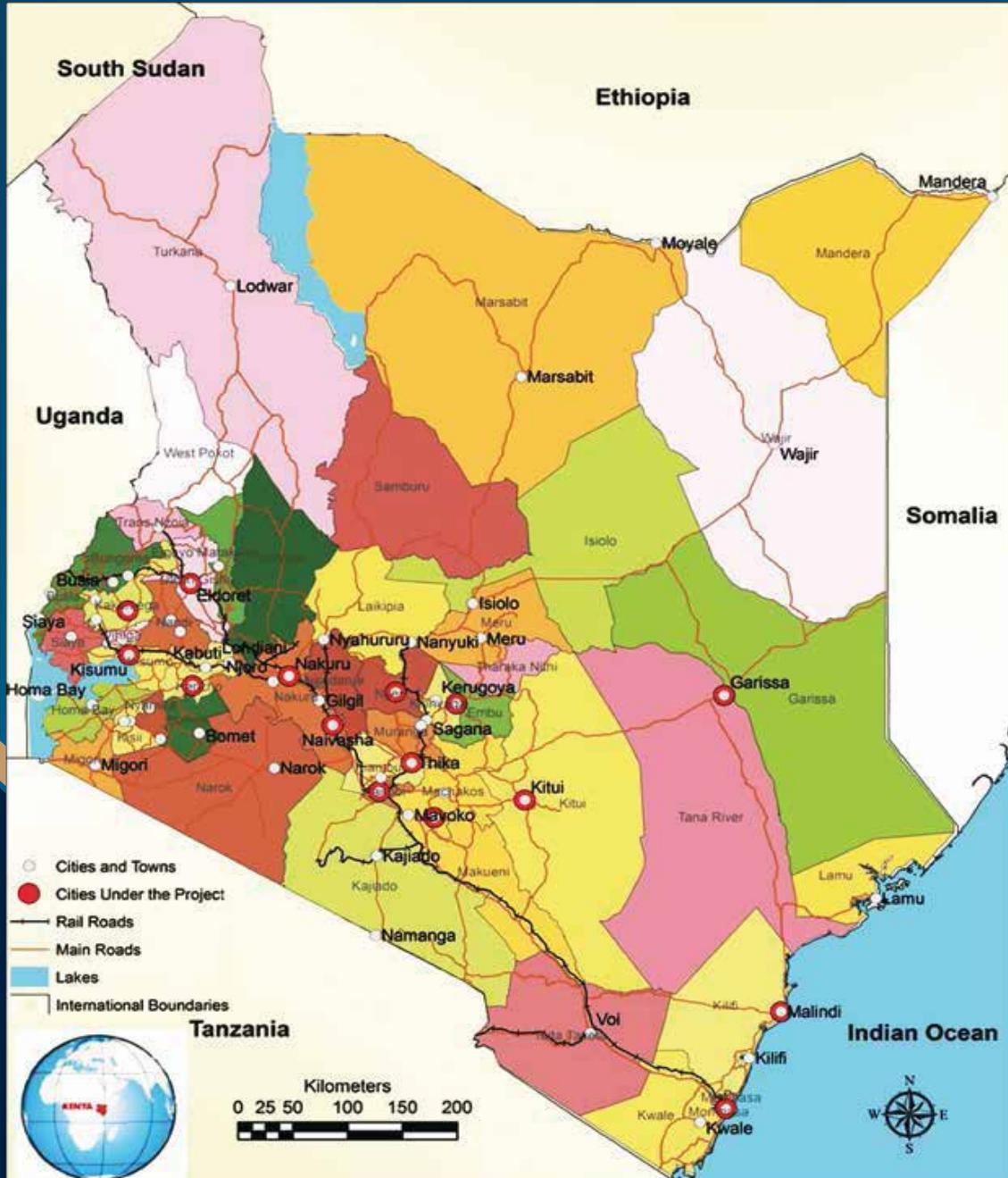


Kenya STATE OF THE CITIES



ELDORET



**KENYA STATE OF THE CITIES
BASELINE SURVEY**
STATISTICAL ABSTRACT FOR ELDORET, KENYA

TABLE OF CONTENTS

Abbreviations	i
Kenya State of the Cities Survey: Cities Covered	ii
Acknowledgements	iii
Introduction	iv
Background	iv
Methodology	iv
Questionnaire	v
Data Quality	v
Table Presentation	v
PART A: HOUSEHOLD CHARACTERISTICS	1
A.1 Household demographic composition	1
A.2 Household education characteristics	2
A.3 Household health profile	4
PART B: HOUSEHOLD ECONOMIC PROFILE	5
B.1 Household occupational composition	4
B.2 Household income/expenditure levels	7
B.3 Household wealth composition	9
B.4 Household finance	9
B.5 Household-owned business profile	10
PART C: DWELLING TENURE, SECURITY, AND CHARACTERISTICS	13
C.1 Household dwelling characteristics	13
C.2 Home and land ownership	15
C.3 Distribution of housing values and rents	16
C.4 Neighborhood social capital and civic participation	17
PART D: INFRASTRUCTURE SERVICES	19
D.1a Water access	19
D.1b Water quality	21
D.2a Electricity and waste-disposal services	22
D.2b Access to sanitation services	24
D.3 Access to transport	25
D.4 Access to communications	26
D.5 Access to infrastructure indicator	26

LIST OF TABLES

Table 1: Description of formats used to denote statistical significance	vii
Table A.1: Household demographic characteristics	2
Table A.2: Household education characteristics	3
Table A.3: Household health characteristics	4
Table B.1: Household members' main activity	6
Table B.2a: Monthly household spending power, as measured by expenditure	8
Table B.2b: Monthly household spending power, as measured by Income	9
Table B.3: Household wealth composition	10
Table B.4: Household finance	11

Table B.5: Household-owned business profile	12
Table C.1: Household dwelling characteristics	14
Table C.2: Household residence and land tenure.....	15
Table C.3: Distribution of housing values and rents	16
Table C.4a: Neighborhood social capital and civic participation	18
Table C.4b: Neighborhood social capital and civic participation	18
Table D.1a: Water access.....	20
Table D.1b: Water quality.....	21
Table D.2a: Access to electricity and waste-disposal	23
Table D.2b: Access to sanitation	24
Table D.3: Access to transport.....	25
Table D.4: Access to communications	26
Table D.5: Access to infrastructure indicator.....	27

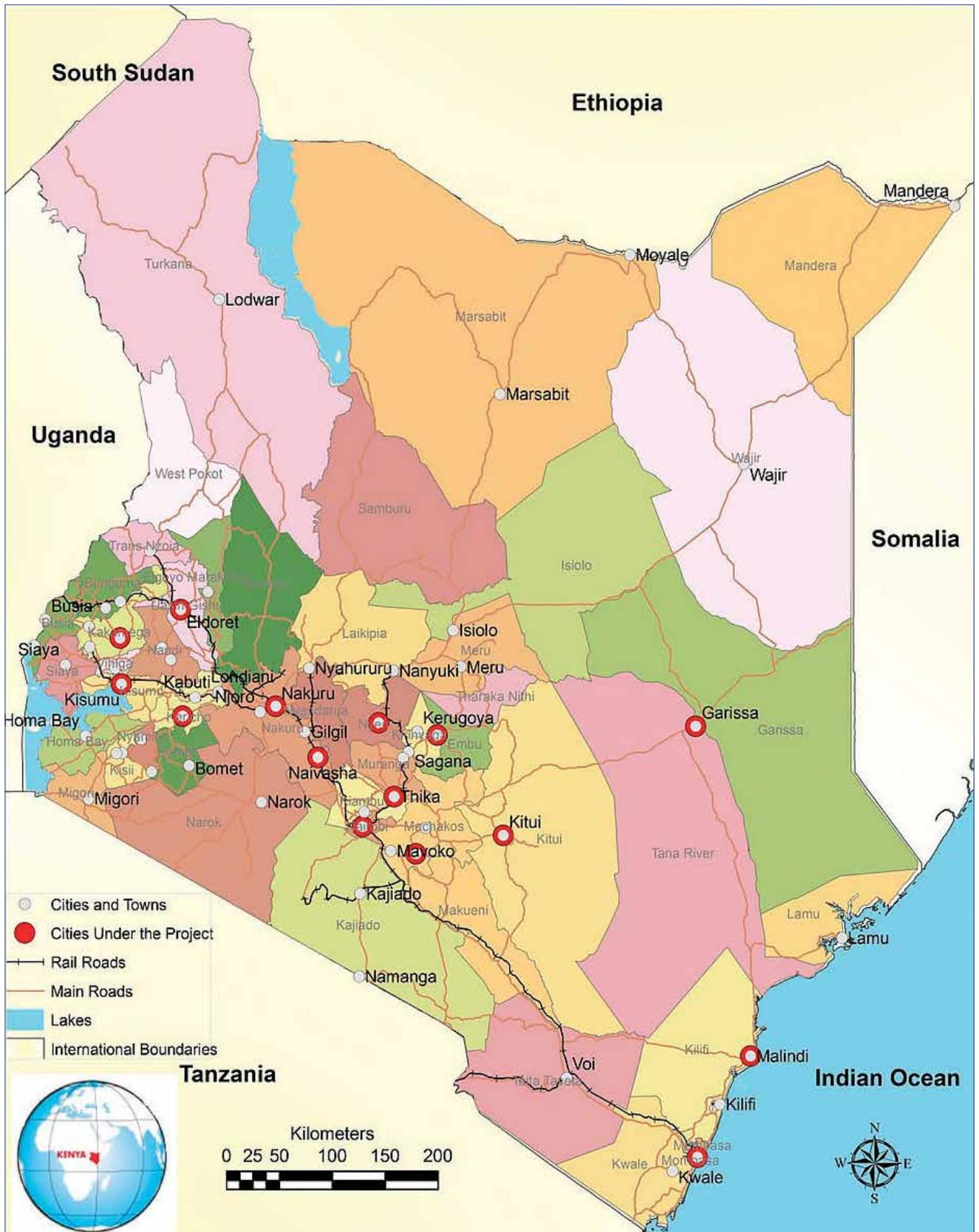
LIST OF FIGURES

Figure 1: Development diamond	29
Figure 2: Infrastructure polygon	30
Figure 3: Living conditions diamond	31

ABBREVIATIONS

CAPI	Computer Assisted Personal Interview
EA	Enumeration area
GOK	Government of Kenya
HH	Household
HUD	U.S. Department of Housing and Urban Development
KIHBS	Kenya Integrated Household Budget Survey
KISIP	Kenya Informal Settlements Improvement Program
KMP	Kenya Municipal Program
KNBS	Kenya National Bureau of Statistics
NMSP	Nairobi Municipal Service Project
PDA	Personal Digital Assistant, in this case a hand held computer used by interviewers
PSU	Primary Sampling Unit
SMSA	Standard Metropolitan Statistical Area
SRS	Simple Random Sample
SSU	Secondary Sampling Unit
WB	World Bank
WBG	World Bank Group

KENYA STATE OF THE CITIES BASELINE SURVEY: CITIES COVERED



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INTRODUCTION

Background

The Kenyan government, with the support of development partners, is increasing its investments in urban infrastructure and services. To support these efforts, the World Bank has contracted NORC at the University of Chicago to carry out a baseline study of the demographic, infrastructure, and economic profiles of fifteen Kenyan municipalities: Nairobi, Mombasa, Naivasha, Nakuru, Malindi, Eldoret, Garissa, Embu, Kitui, Kericho, Thika, Kakamega, Kisumu, Machakos, and Nyeri. This was undertaken in order to deepen understanding of the cities' growth dynamics, and to identify specific challenges to quality of life for residents. The study, called the "Kenya State of the Cities Baseline Survey," collects and analyzes household survey data to produce key statistics and identify differences in conditions among types of households—especially differences between those living in informal versus formal settlements. The ultimate goal is to use the information to establish development priorities for infrastructure and service investments and, eventually, to track the effectiveness of these investments.

Prior to the state of the cities survey, there were little data available to support the design of programmes to improve infrastructure and related services in most Kenyan cities. While there have been several household surveys of Nairobi's informal settlements and numerous analyses using the data, few surveys or analyses have been carried out in other Kenyan municipalities or for modest-income areas in Nairobi.

To facilitate access to the rich datasets generated by the survey, three written products were commissioned: a Statistical Abstract (such as this one) for each city, a City-at-a-Glance for each city (a two-to-three-page summary of the Abstract), and an Overview Report (a more comprehensive discussion of the topics in this introduction, a topic-by-topic comparative analysis of the fifteen cities, and appendices with the survey instrument). The abstract's objective is to provide comprehensive but easily accessible information on the wide range of municipal conditions covered in the survey, as reported by households. Some information in the abstract also comes from secondary sources, such as the national census and the Kenya Integrated Household Budget Survey (KIHBS). The primary audience for the abstract includes policy makers, development practitioners, development partners, civil society organizations, and urban residents. Better planning and more productive investments can result from exploiting the information in each city's abstract.

Methodology

For this baseline household survey, NORC used a two and three-stage, stratified, clustered sampling design intended to be representative of poor and non-poor households living in formal and informal settlements in the fifteen cities included in the study. The first-stage sampling frame was based on Kenya's 2009 census frame of enumeration areas (EAs). In the census sample frame, EAs are identified as urban, peri-urban or rural. EAs are further identified as containing formal or informal settlement types. For the first stage sampling, NORC selected EAs from strata identified as informal (slum), urban-formal, peri-urban-formal and rural. In cases where the EAs were "large" (200 to 700 households), they were divided in half, thirds, or quarters and one segment was randomly selected.

For the final stage of sampling, NORC carried out a full household listing in each selected EA (or segment, as the case may be) and randomly selected ten households for interviewing.¹ Because expected response rates were unknown prior to data collection, interviewers were given a target to complete at least seven interviews in each EA. In Eldoret, 143 EAs were selected in the first stage.² In the second stage, a total of 12,216 households were listed and 1,442 households were selected.

The data for this report are based on 976 completed interviews carried out in Eldoret from July 14, 2012 to November 12, 2012 by a team of eight interviewers and one supervisor. Among eligible households,³ the completion rate was 67.68%.⁴ Data collection took place in both formal and informal settlements simultaneously; 491 interviews were completed in informal settlements and 485 were completed in formal settlements.

Questionnaire

The Kenya state of the cities baseline questionnaire was developed iteratively using a base set of questions developed by the World Bank and refined to capture the key variables related to infrastructure access and municipal services of interest to the Kenyan government. The final fielded questionnaire is available in Volume II of the Overview Report. The household listing form and the questionnaire were programmed for use as a Computer-Assisted Personal Interview (CAPI) and both were carried out using 7-inch Samsung galaxy tab tablet computers which transmitted data to project servers via the mobile phone network. Interviewers used the tablet computers to capture GPS coordinates once during listing and again at the end of each interview.

Data Quality

Recorded administration time of the CAPI instrument showed a median duration of 20 minutes in Eldoret (21 minutes across all municipalities). However, duration values may have been compromised by transmission problems and supervisor reviews, which may have overwritten timestamps. Despite the uncertainty of exact durations, data quality measures do not show systematic interviewer-related errors in the final data. Approximately one-third of all interviews underwent validation, including call-backs by supervisors or central office staff (in-person and by phone).

Table Presentation

Each city's abstract includes a set of tables designed to provide basic information on households' economic and demographic conditions, their housing conditions, and access to infrastructure and services. One challenge in preparing the abstract was to provide a complete picture of conditions while still being selective in the information presented so as not to overwhelm the reader. A second challenge was to display the information in a way that permits stakeholders to understand conditions faced by different population groups.

¹ A complete description of the sampling design is found in "Kenya Municipal Program State of Cities: Overview Report," NORC, August 2013.

² 137 EAs were included in the listing activity. Two EAs were found to be located in a Government Parastatal, the authority refused access. Two EAs were located in school compounds, and as data collection coincided with a teacher strike, the EAs could not be listed. Two EAs were located in affluent estates whose management refused to allow access, despite the help of local authorities.

³ Eligible households are defined as occupied dwellings with at least one resident age 18 or older who is present during the field period.

⁴ The completion rate is the number of households that successfully completed an interview over the total number of households assigned.

To meet these challenges we have developed a set of tables with items believed to be most important for stakeholders and have broken down the items in several ways. In addition to providing an overall picture of household (HH) characteristics, the tables illustrate whether household characteristics differ by key factors. The rows of each table generally list the household characteristics (e.g., size of household, percentage of children in school). The columns present statistics for the entire city, then show how the data differs by location (informal vs. formal areas), household poverty status (poor vs. non-poor), gender of the head of household (male vs. female headed, for informal areas only), as well as other factors pertinent to the particular table.⁵

From each table, one can quickly observe if there are large differences in household characteristics by location, spending power, etc. simply by comparing the cells (numbers). Each table also shows whether the observed differences are statistically significant.⁶ “Statistically significant” means that statistical analysis has revealed that a difference, no matter how small or large, is unlikely due to chance or randomness. In practice, statistically significant differences are the ones researchers are interested in—they can be interpreted as telling us about meaningful differences in household characteristics by location, spending power, gender, or other category. When we discuss differences in the text of this report, we will refer to “statistically significant” differences unless otherwise noted.

In terms of policy decisions, whether differences matter is a combination of whether they are statistically significant and how large the differences are. Ultimately, it is up to the policy practitioner to decide how large a difference must be to matter in the context of interest. An important note when interpreting results is that statistical significance does not imply causality. In other words, if differences in values are statistically significant, this does not mean that one variable caused a change in the other variable. Another factor may be influencing both variables; for example, for we may find a “significant” difference between head-of-household education and household poverty, perhaps the key common cause is social status, which affects both their educational attainment and job/spending opportunities. Additionally, where a statistically significant difference is identified it does not imply the direction of the relationship. Perhaps the household poverty is the reason for the different education levels, or vice-versa. In this report, therefore, we will say a household characteristic is “associated with” or “correlated” with certain factors, rather than saying one is caused by another.

In order not to clutter the tables yet provide the reader with the maximum information, we mark statistically significant results in the tables with bold (for two adjacent values in the same row) and italics (to compare adjacent columns of data). Underlined values denote an insufficient number of household responses for some enumeration category of the sampling design to perform a test of statistical significance. The number of observations for a particular variable is noted in the tables in rows denoted by “N”. Cells with no observations are indicated with hyphens (-).⁷ The table, below, summarizes the formatting used in tables throughout the Abstract: A value that is both bold and italicized indicates statistically significant differences for two adjacent cells (i.e., values in the same row) as well as for the distributions between adjacent columns. In contrast, a value in standard font—no bolding, italics, or underlining—still means that a significance test was performed but that the values under comparison were not statistically significantly different from each other.

⁵ Informal/formal status was defined at the enumeration area level by the Kenya National Bureau of Statistics during the 2009 Census. Poor/non-poor is defined using the answer to a question asking respondents whether their total household expenditure in the last month was above or below a poverty line calculated using the household size (5,567 KSh for each adult 15 years and older + 3,619 KSh for each child aged 5 to 14 + 1,336 KSh for each child under 5 years old).

⁶ Statistical significance is noted when a test achieves a p-value ≤ 0.05 .

⁷ Regarding issues of non-response, both observational and item-specific, see Section 4, below.

There is one caveat to the formatting rules that must be addressed regarding the significance testing of distributions. While the absence of italics sometimes means that the distribution was tested and was not found to be statistically significant, this is often not the case—i.e., there are many distributions which were not tested for significance. To avoid confusion, the comprehensive list of distributions which were tested for significance follow.

- **Table B.2a:** Expenditure ranges by location, tenure, water connection, business, skilled/unskilled head, and gender of household head (in informal areas)
- **Table B.2b:** Income ranges by location, tenure, water connection, business, skilled/unskilled head, and gender of household head (in informal areas)
- **Table C.3:** Distribution of home value ranges and rent ranges by location, tenure, water connection, business, skilled/unskilled head, and gender of household head (in informal areas)
- **Table D.1a:** Percent of households with a piped water connection inside their dwelling by security of ownership; percent of households with a piped water connection inside their compound by security of ownership; percent of households close to piped water access by security of ownership; cost of water by security of ownership; most important water source by security of ownership; reasons for no connection by security of ownership
- **Table D1.b:** Water source by water quality; water provider by water quality; water treatment buy water quality; treatment methods by water quality.

Another feature of the data worth mentioning is that outliers (responses that are very different from all the others) were not a major issue in the survey data, affecting just three variables in any important way.⁸

Finally, note that in tables presenting a distribution of responses, if some response categories are left out then the distribution will not add up to 100%. In cases where all response categories are listed then the first row of responses is given as 100. Unless otherwise noted, all figures presented in the table are percentages.

⁸ Across all fifteen municipalities these were (i) home value, in which 20 responses were reported in millions units instead of as the value itself (so we simply divided these responses by a million); (ii) 40 respondents reported travel time for a weekly or monthly commute rather than a daily commute (these over-eight-hours responses were dropped); (iii) we removed one case in which the time to get water was over a week.

Table 1: Description of formats used to denote statistical significance

Format	When we use it	Example
Bold	Two bolded values in the same row next to each other indicate that the difference is statistically significant. We also use bold for ‘Yes’ or ‘No’ variables. If bold, it means that the difference between the mean of households that answered ‘yes’ (displayed) and the mean of those that answered ‘no’ (not displayed) is statistically significant. ^(a)	Table A.1 displays the mean household size for households located in formal and informal settlements; if the pair of values is bold, it means that the difference in household sizes between formal and informal areas is statistically significant. Table B.2 displays the proportion of households which own land (or have tenure) that fall below the poverty line. If bold, it means that this proportion is statistically significantly different from the proportion of households which do not own land that fall below the poverty line.
<i>Italics</i>	We indicate statistically significant differences between columns of three or more cells using italics; this means the difference between the entire distributions (columns) is statistically significant. ^(b)	Table B.2, Monthly household spending power, displays the distribution of households across income and expense ranges. If values appear italicized in both columns for households located in formal and informal settlements, the difference between the two distributions is statistically significant.
<u>Underline</u>	Denotes values where, due to lack of data at the census tract (enumeration area, or EA) level, it was not statistically possible to conduct the significance test. ^(c)	Table B.3 shows the mean value of households’ primary residence with and without land, and of any other residence and/or land. An underlined value means that due to lack of data at the census tract level, it is not possible to perform a test for significant differences.
Hyphen (-)	In cases where there are no data for a cell at all, we note that with a hyphen (-).	Table B.3 shows data related to household finance. For the percentages of households according to source of financing, the cells that display a hyphen means that there were no observations for that particular variable and category.

Notes:

- a. Here a *p*-test from an Adjusted Wald test is conducted.
- b. Here Pearson’s Chi-squared test is conducted.
- c. At least two households are required to compute a household-level variance, which is required to conduct a hypothesis test. Note that this does not imply that the respective table values are based on just one household or even just one EA.

The core of this abstract comprises a set of tables divided into chapters. Each chapter contains a textual summary of each table and highlights some of their implications. The tables are divided into four groups:

- A. Household characteristics – 3 tables
- B. Economic profile – 5 tables
- C. Tenure, tenure security, dwelling characteristics – 4 tables
- D. Infrastructure services – 7 tables

Notes to the tables are identified by small letters appearing as superscripts at the end of each table. All tables present weighted figures at the household level, unless otherwise noted, to reflect the total population of the respective table cell. The N values, however, present the unweighted number of households, unless otherwise noted.

The final chapter of this abstract contains a series of three “Development Polygons”. These complement the detailed tables presented in sections A through D by illustrating an “overall” sense of the state of the city. The figures included are the Development Diamond, the Infrastructure Polygon, and the Living Conditions Diamond.⁹

⁹ The basic format for all three figures appear in the World Bank Policy Research Working Paper, “Poverty, Living Conditions, and Infrastructure Access” A Comparison of Slums in Dakar, Johannesburg, and Nairobi” by Sumila Gulyani, Debabrata Talukdar, and Darby Jack (2010). We strived to make our own figures as similar as possible, though some deviations, noted in the accompanying text, were necessary.

While the tables generally have a common set of column headings, there is some variation. The following are definitions for those headings that require clarification:

- *Informal/Formal Areas* – This distinguishes between areas based on whether most households in the area have property title and official services. It is a designation provided by a status code at the level of the EA (Enumeration area) as used by the national census.
- *Gender (Informal)* – For the households living in the locations coded as “Informal,” data for household characteristics are provided for both male- and female-headed households. As is standard, the male-headed households may contain the spouse while female-headed households do not.
- *Class (of durable)* – Durable assets are a standard measure of household wealth. They are grouped into three classes, roughly based on their likely market value and degree of permanence. The actual items in each class are indicated in the table. The values reported for these categories are the number owned by the household, not their average or total value.
- *Spending Power* – The total value of household expenditures collected by the survey, excluding rent or mortgage payments.
- *Access to Infrastructure* – This indicator combines six categories of infrastructure (divided into 13 subcategories) weighted by importance to the household and summed to create a household indicator from 0 to 9.5. See NORC (August 2013), “Kenya Municipal Program State of the Cities: Overview Report” for a more detailed description.
- *Household Poverty* – The poverty line varies depending on the number of members of the household and their age. It is calculated by adding together:
 - 5,567 KSh per month for each adult 15 years and older in household,
 - 3,619 KSh per month for each child aged 5 to 14 in household,
 - 1,336 KSh per month for each child under 5 years old in household.

HOUSEHOLD CHARACTERISTICS

This section presents basic household characteristics. Table A.1 provides information on household size and household member distribution by age category. Table A.2 details the level of education of the members of household, as well as the proportion of children and adults of different ages who were currently in school at the time of the survey. Finally Table A.3 presents household health characteristics, including the proportion of children under 15 who have received the BCG vaccine (an immunization against tuberculosis), a major public health concern given that Kenya is a high-tuberculosis-burden country.¹⁰ Table A.3 also includes the number of household members with an illness or injury in the two weeks prior to the survey, the proportion of those members who visited a health practitioner, average household medical expenditures for the month preceding the survey, and the percentage of households that have health insurance. All of these figures are given comprehensively and broken down by location type, the household's poverty status, and the gender of head of household (among informal areas).

A.1 Household demographic composition

The 2009 census estimated that the municipality of Eldoret had a population of 289,380, a 47% increase over the figure reported in the 1999 census; this represents of a 3.9% annualized average growth rate.¹¹

The average household size in Eldoret, as reported by survey respondents, is 3.1 members. The average male-headed household in informal areas is significantly larger than the average female-headed household in such areas—male-headed household, on average, have about one more member. On average, about 87% of households' members are aged 5 to 60 years old—13.3% are between 5 and 14 years old, 74% are between 15 and 60, 11% are under 5 and less than 1% are over 60. The head of household is female in 24% of all households. Seventy-two percent of female-headed households are located in formal areas, and 69% of female-headed households are poor, i.e. given their household size they have monthly expenditures below the poverty line. The only two significant differences found were that (1) the mean percentage of 5 to 14 year olds in female-headed households in informal areas is higher than in male-headed households in the same areas, and (2) the mean percentage of 15 to 60 year olds is significantly higher in non-poor households than in poor households.

¹⁰ World Health Organization Global tuberculosis report 2012, retrieved June 12th 2013 from http://www.who.int/tb/publications/global_report/en/

¹¹ From Statistical Abstract 2010 and Statistical Abstract 2006, Kenya National Bureau of Statistics.

Table A.1: Household demographic characteristics

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Number of households							
Weighted	97,064	28,225	68,839	67,247	29,199	21,662	6,429
N (unweighted)	974	490	484	660	308	380	108
Size of household	3.10	3.16	3.07	3.13	3.02	3.38	2.44
N	974	490	484	660	308	380	108
Mean percent of household members aged:							
Total	100	100	100	100	100	100	100
Under 5	10.8	12.0	10.3	11.4	9.6	12.6	10.1
5 to 14	13.3	14.5	12.8	14.0	11.6	13.1	19.1
15 to 60	74.0	71.9	74.9	72.8	77.3	72.5	69.2
Over 60	0.9	0.7	1.0	1.0	0.7	0.7	0.8
N	974	490	484	660	308	380	108
Proportion of households...							
Male-headed	76	77	76	76	76		
Female-headed	24	23	24	24	24		
N	960	488	472	653	303		
Female-headed distribution		28	72	69	31		
N		230	228				

A.2 Household education characteristics

Eldoret was part of the Rift Valley Province, where, in 2009, primary classrooms had an average class size of 36 students and secondary classrooms had on average 34 students. Student-teacher ratios in the former Rift Valley Province were, on average, 40:5 for primary schools and 23 for secondary schools.¹²

The first panel of Table A.2 presents statistics on the education of all individuals aged 5 years and older within the surveyed households. About half of all individuals have completed secondary school or higher—a figure that is likely skewed by the fact that the majority of household members are between 15 and 60 years old—and 77% completed primary or higher. A significantly higher percentage of household members in informal areas had some primary school or completed primary than those in formal areas; on the other hand, significantly more household members in formal areas completed more than a secondary education (21% vs. 7% for informal areas). Having “no education” is rare; only 2% of individuals in poor households had no education and everyone in wealthier households had some education, but the difference between poor and non-poor households having no education is statistically significant. In informal areas, members in female-headed households are more likely to have ended their education after completing some primary school while members in male-headed households are more likely to have completed secondary school.

¹² Provinces no longer exist in Kenya. This data is based on the Kenyan Institute for Public Policy Research and Analysis 2009 Economic Report, Table A3.16, pg. 192, per Ministry of Education statistics, http://www.marsgroupkenya.org/pdfs/2009/10/Kenya_Economic_Report_2009.pdf Section

Table A.2: Household education characteristics

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Percent of individuals 5 and older with highest grade:							
Total	100	100	100	100	100	100	100
None	1	2	1	2	0	1	3
Some primary	31	36	29	32	30	34	45
Completed primary	15	18	14	16	13	17	20
Some secondary	12	15	12	12	13	15	11
Completed secondary	23	23	23	23	23	25	13
Higher	17	7	21	16	21	7	7
N	2,507	1,247	1,260	1,729	763	1,016	225
Mean percent of household's adults over 18 with highest grade completed:							
Total	100	100	100	100	100	100	100
None	1.5	2.1	1.2	1.9	0.4	1.4	4.8
Some Primary	11.8	16.8	9.7	12.5	10.3	14.8	24.0
Completed primary	19.2	24.7	16.9	20.5	16.2	22.8	30.2
Some secondary	13.9	16.4	12.8	13.9	13.5	17.5	13.2
Completed secondary	30.1	29.7	30.3	29.9	30.5	32.7	19.5
Higher	23.2	9.5	28.8	20.8	28.8	10.1	7.9
N	972	490	482	660	308	380	108
Percent of individuals in school by age group:							
5 to 14	92.6	<u>93.7</u>	<u>92.1</u>	<u>93.3</u>	<u>90.3</u>	<u>95.0</u>	<u>91.3</u>
N	363	<u>181</u>	<u>182</u>	<u>251</u>	<u>109</u>	<u>135</u>	<u>45</u>
15 to 18	78.0	<u>70.2</u>	<u>81.8</u>	<u>74.0</u>	<u>87.3</u>	<u>70.8</u>	<u>67.1</u>
N	149	75	74	104	43	58	17
Over 18	13.8	10.3	15.2	11.4	18.9	11.5	6.5
N	971	489	482	659	308	379	108

The second panel of the table shows the mean percent of adult individuals over 18 years within each household. This is done to show intra-household educational levels among households' adult members. We find that on average, 53.3% of an Eldoret household's adults have completed secondary school or higher (30.1% completed secondary, while 23.2% completed higher education). Only about 1.5% of a household's adults had no education whatsoever. The remaining 44.9% completed some primary, all of primary, or some secondary schooling. We also found interesting differences between households in formal and informal areas. In informal areas, a significantly higher percentage of household's adults completed some or all of primary school, while a significantly lower percentage completed higher education past secondary. In poor areas, a significantly higher percent of households' adults had no education (1.9%, versus 0.4% in non-poor areas). Finally, we found that in informal areas, a significantly higher percentage of male-headed households' adults completed secondary school.

Ninety-three percent of individuals aged 5 to 14 years old are currently in school; this figure is 78% for individuals 15 to 18 and 14% for individuals over 18. The percentage of individuals over 18 that are currently in school is significantly higher among non-poor households than poor households (19% vs. 11%).

A.3 Household health profile

Eldoret was part of Rift Valley province, which, in 2005, had an average of 11 doctors and clinical officers per 100,000 residents and 50 nurses per 100,000 residents.¹³ The former Rift Valley province had 16 medical facilities per 100,000 residents, including hospitals, clinics, dispensaries, and other types of facilities.¹⁴

Overall, 87% of households' report their children under 15 received BCG (tuberculosis) immunizations, with no statistically significant variation between groups. Twenty percent of households had a sick or injured household member in the two weeks prior to the interview, a number which is significantly higher among non-poor households than poor households. Seventy-seven percent of these visited a health practitioner. Rates of health insurance coverage is quite low (21%), and vary significantly by area type (24% in formal areas vs. 15% in informal areas) and poverty (32% in non-poor households vs. 16% in poor households).

Table A.3: Household health characteristics

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Percent of household's children under 15 having received BCG immunization	87	83	88	85	92	86	74
N	520	266	254	363	154	211	54
Percent of households with an injured/ill member, previous two weeks	20	23	19	16	27	25	15
N	974	490	484	660	308	380	108
Percent of ill household members that visit a health practitioner, previous two weeks	77	<u>75</u>	<u>78</u>	<u>78</u>	<u>77</u>	<u>77</u>	<u>64</u>
N	183	96	87	95	86	81	15
Household medical expenditures (KSh), previous month	612	775	545	597	655	931	266
N	970	489	481	659	307	379	108
Percent of households with health insurance	21	15	24	16	32	17	11
N	970	488	482	659	307	379	107

¹³ 2004/2005 numbers of healthcare providers obtained from Partners for Health Reform plus 2006 Report, Table A1, pg. 39, Annex A, statistics obtained from Rep. of Kenya. www.healthsystems2020.org/files/1654_file_Tech101_fin.pdf. Per capita figures calculated by dividing by 2005 (estimated) population obtained from the Kenya Integrated Household Budget Survey, Table 3.1, [http://www.knbs.or.ke/pdf/Basic%20Report%20\(Revised%20Edition\).pdf](http://www.knbs.or.ke/pdf/Basic%20Report%20(Revised%20Edition).pdf).

¹⁴ Based on most current (updated) figures from Kenya Bureau of Statistics Open Kenya online database, <https://kenya.socrata.com/Health-Sector/Health-Facility-Pie-Chart/yr4-763w>. Per capita figures calculated by dividing by 2009 census population, obtained from 2010 Statistical Abstract, Kenya National Bureau of Statistics.

HOUSEHOLD ECONOMIC PROFILE

B.1 Household occupational composition

Table B.1 presents the current occupation, or main activity, of household members. The first panel shows the percent of all adults over 18 in each of the occupations. The five most prominent occupation categories are casual employee, regular employee, self-employed, homemaker, and student, which together comprise about 82% of all adults in Eldoret over 18 years old. Individuals in formal areas are significantly more likely to be regular employees and students than individuals in informal areas, and are significantly less likely to be homemakers. Individuals in poor households are significantly less likely to be employers and earning income from investments or property, while they are significantly more likely to be casually employed. One interesting and statistically significant finding is that members of female-headed households in informal areas are twice as likely to be self-employed as members of male-headed households. Individuals in female-headed households in informal areas are also significantly less likely to be regular employees or employers than individuals in male-headed households in these areas.

The second panel shows the average percent of adults over 18 within each household that are occupied in each of the categories. This is done to show intra-household occupational status among households' adult members. The results here are similar to those in the first panel above. Here, we find that on average, about two-thirds (66.3%) of a household's adult members are either regular employees, casual employees, or self-employed. About 11% are homemakers, 7.6% are unemployed but looking for work, and 7% are students; no other category includes more than 2.5% of adult household members. Our survey found that in formal areas, the average percent of households' adults who are regular employees is almost double the average percent in informal areas (12.5% vs. 24.4%, a significant difference), while the average percent of adults who are homemakers is significantly less than in informal areas. Compared to non-poor households, poor households contain, on average, a significantly higher percentage of adults who are casual employees and a significantly lower percent who are employers. In informal areas, male-headed households contain significantly higher average percentages of adults who are regular and casual employees and homemakers, but a significantly lower percentage who are self-employed. In female-headed households in informal areas, an average of about 45% percent of the adult members are self-employed—suggesting that female-heads typically support their households through self-employment.

Table B.1: Household members' main activity

Occupation ^a	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Percent of adults over 18 with occupation:							
Employer	1.9	0.7	2.4	0.8	4.4	0.9	0.1
Regular employee	19.3	11.9	22.3	18.8	20.7	13.3	5.2
Casual employee	20.8	23.8	19.5	23.2	15.4	25.3	17.4
Self-employed	18.3	21.0	17.3	18.0	19.4	17.6	38.7
Unpaid family worker	3.2	3.3	3.2	3.2	3.1	4.0	-
Apprentice	0.1	0.2	0.1	0.1	0.1	0.2	-
Student	11.1	7.8	12.4	10.0	12.9	7.6	7.3
Pensioner/investor	0.6	0.6	0.6	0.7	0.4	0.6	0.6
Earning from investments/ property	0.3	0.4	0.2	0.1	0.7	0.4	-
Sick/unable to work	0.1	0.4	0.1	0.1	0.4	0.4	-
Unemployed looking for work	8.9	10.1	8.4	8.9	8.9	9.6	12.9
Unemployed, not looking for work now	1.8	2.1	1.8	1.6	2.4	1.9	3.0
Homemaker	12.4	17.1	10.5	13.2	10.3	17.6	12.6
N	1,765	870	895	1205	550	720	145
Mean percent of household's adults over 18 with occupation: ^b							
Employer	2.1	0.6	2.7	0.9	4.7	0.8	0.1
Regular employee	21.0	12.5	24.4	19.3	24.7	14.8	5.1
Casual employee	25.3	28.2	24.0	28.2	18.9	31.1	18.9
Self-employed	20.0	22.3	19.1	19.3	21.8	15.8	44.7
Unpaid family worker	2.5	2.7	2.5	2.7	2.7	3.5	-
Apprentice	0.2	0.1	0.2	0.2	0.1	0.0	-
Student	7.0	4.8	7.9	6.5	7.7	5.1	3.3
Pensioner/investor	0.4	0.7	0.3	0.4	0.3	0.8	0.2
Earning from investments/ property	0.2	0.2	0.1	0.1	0.3	0.2	-
Sick/unable to work	0.1	0.2	0.1	0.1	0.2	0.3	-
Unemployed looking for work	7.6	9.2	7.0	7.5	8.1	8.8	10.7
Unemployed, not looking for work now	1.4	2.1	1.2	1.3	1.7	2.0	2.2
Homemaker	10.7	15.4	8.7	11.7	8.3	15.7	13.2
N	972	490	482	660	308	380	108

Notes:

- a. The category "Other" has been omitted.
- b. These numbers are obtained by first computing the percentages of each household's members in each category, and then taking the mean of these percentages over all households.

B.2 Household income/expenditure levels

There are two general approaches to measure spending power: expenditure and income, both of which are shown in the tables below. In the survey, income derives from household members' salaries, business earnings, rents, public cash support, and earnings from financial assets in the month prior to the interview, but does not include any remittances. Expenditures include all purchases, including investments for household-owned businesses. In theory, both approaches express the same amount of spending power, but typically one approach is not enough, especially when estimations are based on survey data. This is because survey respondents' perceptions about their income and expenditures can be unreliable; estimates vary depending on seasonal changes in economic activities, type of assets owned, household's cash flows, and in-kind payments.

In practice, the expenditure approach is usually more accurate because most respondents, making purchases daily, recall their expenses better. Income, on the one hand, can be problematic because it can be subject to respondent misreporting (e.g., desire to impress the enumerator) and, with non-wage income; respondents do not generally make a clear distinction between revenue (sales) and income (revenue minus expenses). Using both methods, therefore, provides an additional level of verification.

Over half (70%) of all households have monthly expenditures below the poverty line, as determined by the household composition. This proportion is about equally high in both formal and informal areas, and surprisingly, it is unaffected when the head of household works either in a "skilled" or in an "unskilled" profession. However, it is significantly lower when the household owns a business compared to when it does not own a business.

Income and expenditure distributions vary significantly depending on tenure status, water connection, business ownership, and whether the household head is skilled. Whether a household owns a business is a particularly strong predictor of income and expenditure levels—households with a business are more likely to fall into the highest income/expenditure categories and significantly less likely to be below the poverty line.

Table B.2a: Monthly household spending power, as measured by expenditure

Characteristic	All	Location		Household has...			House hold head is ^c		Gender (Informal)		Value of transfer (row pct.) ^d
		Informal areas	Formal areas	Tenure ^a	Water connection	A business ^b	Skilled	Un-skilled	Male-headed	Female-headed	
Percent of HHs below poverty line	70	67	71	62	65	55	67	71	67	66	
N	968	487	481	114	280	221	368	600	378	107	
Mean expenditure (monthly KSh)	15,713	13,090	16,788	23,844	21,342	20,068	17,391	14,708	13,904	10,447	
N	974	490	484	114	282	222	368	606	380	108	
Percent of households with expenditure: ^d											
Less than 3,000 KSh	6	7	5	2	1	1	3	8	6	11	2,509 (9%)
3,001-6,000 KSh	17	19	16	12	10	9	14	19	19	21	2,803 (13%)
6,001-9,000 KSh	18	19	17	7	15	12	17	18	18	23	3,394 (31%)
9,001-30,000 KSh	18	18	18	16	21	15	16	20	18	20	3,563 (29%)
13,001-18,000 KSh	15	16	14	11	13	22	21	11	16	15	4,837 (51%)
18,001-30,000 KSh	15	12	16	23	20	22	16	15	13	6	6,436 (54%)
31,001-75,000 KSh	11	8	12	27	19	19	13	10	9	4	11,299 (65%)
Above 75,000 KSh	1	1	1	2	2	1	1	1	1	-	21,337 (67%)
N	974	490	484	114	282	222	368	606	380	108	353
Cash transfers ^(e)	8,239	<u>7,008</u>	<u>8,653</u>	<u>10,077</u>	<u>11,358</u>	<u>6,214</u>	<u>10,505</u>	<u>7,036</u>	<u>7,253</u>	<u>6,422</u>	
N	127	62	65	12	42	41	34	93	38	24	

Notes:

- Household possesses deed or other officially recognized document conferring ownership of the structure, land, or both.
- "Business" refers to a self-employed activity that may or may not entail household or wage employees.
- Includes those self-declared as "skilled" as well as "professional".
- An imputed 30-day value from responses over several periods (7 days for food, 30 days for other consumables, 12 months for durables and annual services). See Volume I in the Overview Report. No significance test performed on this column.
- Transfers are cash outflows over last three months averaged over households with such flows (equal to proportion of row households in parentheses).

On average, households who sent money to individuals outside their household sent around 8,240 KSh in the three months prior to the interview, and those that received money received, on average, almost 14,500 KSh in the same period. Households were more likely to send money than to receive it, and wealthier households were much more likely to send money—67% of households in the top expenditure category sent money to friends or relatives, compared to only 9% of those in the bottom. However, there are no large differences in the proportion of households receiving remittances (transferred income) across expenditures categories (9-16%), except for the top income category, in which 31% of households are remittance recipients.

Table B.2b: Monthly household spending power, as measured by Income

Characteristic	All	Location		Household has...			House hold head is ^c		Gender (Informal)		Value of remittance (row pct.) ^d
		Informal areas	Formal areas	Tenure ^a	Water connection	A business ^b	Skilled	Unskilled	Male-headed	Female-headed	
Proportion of households with income: ^d											
Less than 3,000 KSh	8	12	7	7	2	4	1	13	10	17	2,867 (16%)
3,001-6,000 KSh	21	23	20	8	11	11	18	23	22	26	14,713 (13%)
6,001-9,000 KSh	20	19	20	7	13	21	20	20	20	15	6,465 (13%)
9,001-30,000 KSh	16	18	15	16	18	15	16	15	17	22	4,625 (9%)
13,001-18,000 KSh	12	13	12	12	13	20	17	10	13	10	16,394 (13%)
18,001-30,000 KSh	13	9	15	22	21	20	16	12	10	7	13,001 (14%)
31,001-75,000 KSh	8	5	9	26	18	6	10	6	6	2	58,052 (15%)
Above 75,000 KSh	1	1	2	3	3	3	2	1	1	-	22,704 (31%)
N	940	476	464	110	268	212	360	580	372	102	123
Cash remittances ^e	14,496	10,091	16,494	19,993	19,459	13,001	23,010	11,173	10,662	9,302	
N	127	62	65	12	42	41	34	93	38	24	

Notes:

- Household possesses deed or other officially recognized document conferring ownership of the structure, land, or both.
- "Business" refers to a self-employed activity that may or may not entail household or wage employees.
- Includes those self-declared as "skilled" as well as "professional".
- Total household cash income in KSh, previous month, not including in-kind income or cash assistance from/to family or friends who live outside the household. No significance test performed on this column.
- Remittances are cash inflows over last three months averaged over households with such flows (equal to proportion of row households in parentheses).

B.3 Household wealth composition

The "household wealth index" is calculated from the household's declared ownership of a list of common household items. The value itself is created by totaling the estimated value of each item (indicated in brackets, in USD), converting to KSh, and dividing by 1,000; so the average of 23.9 means that the average household owned approximately 23,900 KSh worth of listed possessions. However, since each possible possession was only counted once, this should not be taken as a reliable estimate, but rather a unitless index of comparison.

This value is significantly higher in formal than informal areas and non-poor vs. poor households. There are significant differences in holdings of Class-1 durables (by area type and poverty), Class-3 durables (by poverty and gender of household head (in informal areas)), entertainment equipment (by area type and poverty), and motorized transport (by area type).

Home values are relatively concentrated. The high number of missing or don't know responses to this question means that the averages shown are drawn from a relatively small group and tests of statistical significance were not possible.

Table B.3: Household wealth composition

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Index of household wealth ^(a)	23.9	20.4	25.3	22.1	28.1	20.9	18.6
N	974	490	484	660	308	380	108
Household's average holdings of:							
Class-1 durables (furniture, pans, iron, mosquito net) [7]	5.8	5.5	5.9	5.6	6.1	5.5	5.7
Class-2 durables (stove, sewing machine, fan, wheelbarrow, water storage tank) [60]	0.8	0.8	0.9	0.8	0.9	0.8	0.7
Class-3 durables (refrigerator, washing machine, electric generator, bicycle) [100]	0.1	0.8	0.9	0.1	0.2	0.2	0.0
Farm animals (poultry and livestock) [200]	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Entertainment equipment (radio, TV, satellite dish, DVD, video player) [80]	1.8	1.5	1.9	1.7	2.0	1.5	1.4
Motorized transport (motorcycle [400], car [1,000])	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N	974	490	484	660	308	380	108
Value of primary residence, not its land (in 1,000 KSh) ^b	-	-	-	-	-	-	-
N	0	0	0	0	0	0	0
Value of primary residence and its land (in 1,000 KSh) ^b	1,005	<u>941</u>	<u>1,088</u>	<u>941</u>	<u>1,088</u>	<u>1,372</u>	<u>250</u>
N	33	16	17	19	14	13	3
Value of other land and/or residence (in 1,000 KSh) ^c	163	<u>546</u>	<u>94</u>	<u>199</u>	<u>128</u>	<u>545</u>	-
N	11	4	7	5	6	4	0

Notes:

- This is a class-weighted average of the number of items as disaggregated in this same table, multiplied by the weight given within the square brackets [].
- About 97% of the sample had missing values for this amount, though at about the same frequency across the categories of this table. About half the sample that declared owning land or a residence failed to report its value. Averages are only over households with the asset. See "Proportion of Owners" in Table C.1. Please, note that values in the last three rows of the table are divided by one thousand.
- Since the survey does not ask the value of these, they have been imputed as a percent of primary residence value where it was declared (see Footnote (b)). These imputations are: land in city (10%), land outside city (5%), residence only in city (40%), and residence only outside of city (28%). If household has both land and structure these are scored separately and added together. In the case where the land of primary residence is not owned the value of the residence is first doubled before the imputations are made.

B.4 Household finance

Around 58% of all households in Eldoret have a bank account, a number that differs significantly across area type and poor/non-poor status. However, the percentage of households with loans is extremely low, and most loans (5% of households) are obtained from banks. Interestingly, male-headed households are significantly more likely to obtain loans from banks and savings/credit groups or co-ops (though percentages here are still very small). Consistent with findings mentioned above, far more households (38%) sent money to people not living at the household than received money (14%). Significantly fewer poor households send and receive money than non-poor households. In informal areas, significantly more female-headed households than male-headed households receive assistance, while male-headed households are significantly more likely to send assistance.

Table B.4: Household finance

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Percent of households with a bank account	58	44	63	54	67	46	38
N	971	489	482	659	308	379	108
Percent of households with a loan	7	6	8	6	10	7	1
N	972	490	482	660	307	380	108
Percent of households with a loan from a...							
Bank	5	3	5	4	6	3	1
Microfinance institution	1	1	1	1	1	1	0
Savings/credit group or co-op	2	2	2	2	3	2	0
Relative/friend	0	-	-	-	-	-	-
Informal lender	0	-	-	-	-	-	-
N	974	490	484	660	308	380	108
Percent of HHs receiving cash from those not now living at residence(a)	14	14	14	11	20	11	25
N	971	489	482	660	307	379	108
Percent of HHs sending cash to those not now living at residence ^a	38	39	38	32	52	43	25
N	970	488	482	659	307	378	108

Notes:

a. Over the previous twelve months.

B.5 Household-owned business profile

Twenty-two percent of households own a business, most of which (57%) engage in some form of selling. These businesses tend to be fairly new and quite small, as the average age for a business is less than a year and the average number of employees is between one and two—in fact, the business owner is the sole employee in many cases. Nearly all businesses are registered either with a local authority (41%) or not at all (54%), and 38% of businesses do not pay fees or taxes. The relatively low number of businesses means that it is not possible to perform tests of statistical significance for most of Table B.5.

Table B.5: Household-owned business profile

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Percent of HH with business ownership, last 12 months	22	26	20	17	33	25	31
N	973	490	483	660	308	380	108
Type of business: ^a							
Manufacturing	9	7	11	12	6	9	3
Selling	57	65	52	53	61	62	76
Transport	2	2	2	1	2	2	-
Professional (including Internet)	0	-	1	-	1	-	-
Other (barber, cleaning, etc.)	31	27	34	34	28	29	23
N	222	118	104	112	109	84	34
Years in operation	0.9	1.3	0.8	0.9	0.9	1.2	1.3
N	221	117	104	112	109	83	34
Number of employees	1.7	1.6	1.8	1.7	1.7	1.6	1.4
N	222	118	104	112	109	84	34
Which are:							
Household members	1.2	1.2	1.2	1.1	1.3	1.3	1.1
N	222	118	104	112	109	84	34
Non-household members	0.5	0.4	0.6	0.6	0.4	0.4	0.3
N	220	118	102	111	108	84	34
Revenue in previous month ^b	14,693	12,858	15,666	13,614	16,004	14,636	8,827
N	198	107	91	102	96	74	33
Registration status:							
Local authority (municipal or city council)	41	34	44	44	38	30	43
Kenya Revenue Authority	3	4	3	0	7	5	0
Registrar of Companies	1	0	1	0	2	0	0
None of the above	54	61	51	55	54	62	57
N	222	118	104	112	109	84	34
Share of businesses making fiscal contributions:							
Daily market local fee	24	29	22	24	25	27	33
Single business permit local fee	35	27	40	32	40	28	24
Value Added Tax	3	1	3	0	6	2	0
N	222	118	104	112	109	84	34

Notes:

- a. Households were allowed to choose more than one category so these figures may exceed 100%.
- b. Average over only those businesses operating over the period.

DWELLING TENURE, SECURITY, AND CHARACTERISTICS

C.1 Household dwelling characteristics

On average, households in Eldoret have 2.1 people per room, a ratio that significantly differs by area type, household poverty, and the gender of household head. Households have less than one bathroom on average. Twenty-eight percent of households have a kitchen. This proportion is more than twice as high in formal settlements (34%) as in informal (14%) and higher among non-poor households (36%) than poor households (25%). Both are significant differences.

Most households in Eldoret cook with charcoal or gas. Significantly higher percentages of households in formal areas use electricity and firewood, while a significantly lower percentage uses charcoal. A significantly lower proportion of poor households use gas than do non-poor households; on the other hand, significantly larger proportions use electricity, charcoal, and firewood.

Most households are renters (86%), with only a small percentage (12%) owning their land and structure. Significantly more poor households than non-poor households are renters. While the proportion of households that rent their dwelling significantly decreases as spending power expands, the number of households that own land and structure in our sample is so small that it is not possible to state any assumptions regarding property ownership patterns.

People in Eldoret report that they are highly susceptible to natural and man-made hazards. Fully 50% of households report that the area around their dwelling floods during heavy rains, 37% say they live within a ten-minute walk of a formal or informal garbage dump, and 7% state that they are exposed to factory pollution in their neighborhood. Even in the highest spending quartile, over 30% of households report living near a dump, and this proportion is, unsurprisingly, significantly higher in informal than in formal settlements. Interestingly, factory pollution is reported much more frequently in households located in formal areas (9%) than in informal areas (3%).

Quality of housing varies widely across location. Twenty-nine percent of households in informal areas have an earth or clay floor, compared to 16% of those in formal areas—a significant difference. Almost all households have an iron or grass roof, though the proportions are significantly different in formal vs. informal areas and in poor vs. non-poor households. Only 60% of households have stone or brick walls; although the latter is more common in formal areas than informal areas.

Table C.1: Household dwelling characteristics

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Number of persons per room	2.1	2.3	2.0	2.3	1.8	2.5	1.9
N	970	489	481	657	308	380	107
Number of bathrooms	0.7	0.6	0.7	0.7	0.7	0.6	0.7
N	973	490	483	660	308	380	108
Proportion of residences with kitchen	28	14	34	25	36	14	13
N	973	490	483	660	308	380	108
Primary cooking fuel:							
Electricity	2	0	3	2	1	0	1
Paraffin or kerosene	7	9	7	6	12	7	15
Gas	13	6	15	9	21	7	4
Charcoal	75	83	72	80	63	84	80
Firewood	3	1	3	3	2	2	0
N	961	482	479	651	305	372	108
Proportion of households that:							
Total	100	100	100	100	100	100	100
Owens the land only	0	0	0	0	-	1	-
Owens structure only	0	-	0	0	0	-	-
Owens land and structure	12	11	12	11	16	12	10
Rents	86	88	85	88	82	88	90
Squats	2	0	2	1	2	0	-
N	973	490	483	660	308	380	108
Pct. of HHs in areas subject to ^a :							
Flooding ^b	50	56	48	51	49	57	52
Mudslides ^c	4	5	4	5	4	5	6
10 minute walk to formal or informal garbage dump	37	45	34	34	44	47	38
Factory pollution (air, water, noise)	7	3	9	8	7	3	4
N	973	490	483	660	308	380	108
Housing quality:							
Pct. with earth/clay floor	20	29	16	21	18	29	29
Percent with corrugated iron roof	95	100	94	96	93	99	100
Percent with grass roof	0	0	0	0	0	0	0
Percent with stone/brick/block walls	60	50	64	58	66	50	49
N	97	93	97	93	97	93	97

Notes:

- a. All data is self-reported, and therefore subjective.
- a. Households reported that the area floods during heavy rains.
- a. Households reported that they are located on a hillside that is subject to mudslides.

C.2 Home and land ownership

Most households are renters (86%), with only a small percentage (12%) owning their land and structure. Sixty-nine percent of households owning their structure reported feeling secure in their ownership. Most household owners (64%) reported having a freehold title for their land, while 14% reported no land possession documents whatsoever. Two percent of households reported being evicted.

The bottom portion of Table B.2 focuses on neighborhood mobility. Households reported living an average of five years in their present dwelling, and about two years longer in their present neighborhood. On average, non-poor households reported living in the neighborhood significantly longer than poor households.

Table C.2: Household residence and land tenure

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Percent of households that:							
Total	100	100	100	100	100	100	100
Own the land only	0	0	0	0	-	1	-
Own structure only	0	-	0	0	0	-	-
Own land and structure	12	11	12	11	16	12	10
Rent	86	88	85	88	82	88	90
Squat	2	0	2	1	2	0	-
N	973	490	483	660	308	380	108
Percent of HHs that feel secure in ownership	69	<u>63</u>	<u>71</u>	<u>64</u>	<u>77</u>	<u>65</u>	<u>54</u>
N	114	55	59	69	45	41	14
Variability of households feeling secure ^(a)	0.01	0.01	0.03	<u>0.14</u>	<u>0.02</u>	0.00	0.33
N	114	55	59	69	45	41	14
Percent of HHs that experienced eviction	2	1	2	1	3	1	1
N	973	490	483	660	308	380	108
Proportion of house hold owners by type of land-possession document:							
Total	100	100	100	100	100	100	100
None	<u>14</u>	<u>15</u>	<u>13</u>	<u>12</u>	<u>17</u>	<u>15</u>	16
Freehold title	<u>64</u>	<u>45</u>	<u>70</u>	<u>66</u>	<u>61</u>	<u>41</u>	58
Temporary occupation license	<u>2</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>1</u>	4	8
Share certificate	<u>3</u>	<u>4</u>	<u>2</u>	<u>1</u>	<u>5</u>	<u>3</u>	6
Government certificate of title ^(b)	<u>9</u>	<u>7</u>	<u>9</u>	<u>10</u>	<u>6</u>	<u>7</u>	6
Letter from chief (provincial administration)	<u>6</u>	<u>14</u>	4	<u>6</u>	<u>6</u>	<u>16</u>	7
Other	<u>2</u>	<u>10</u>	0	<u>1</u>	<u>4</u>	<u>12</u>	-
N	139	60	79	87	52	43	17
Neighborhood mobility							
Years in dwelling	5.0	4.7	5.1	4.7	5.7	5.1	4.4

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
N	972	489	483	660	308	485	379
Years in neighborhood	7.0	7.1	6.9	6.4	8.3	6.9	7.0
N	971	488	483	660	308	379	107
Home loan payment as a percent of spending power ^c	24	<u>25</u>	<u>24</u>	<u>28</u>	<u>19</u>	<u>21</u>	<u>61</u>
N	15	7	8	7	8	6	1

Notes:

- Computed as the intra-class correlation coefficient, where the "class" is the EA. This measures the extent to which households within an EA resemble each other in their feelings of security in ownership. No significance tests performed on this row.
- Long-term lease from City council/Government.
- Computed only for those with a housing loan.

C.3 Distribution of housing values and rents

Nearly all respondents reported their home values to be between 9,000 KSh and 2.5 million KSh; the average value was about 1 million. Note that very few households—33 in total reported home values, so these results are likely unreliable.

Table C.3: Distribution of housing values and rents

Characteristic	All	Location		Household has...			House hold head is... ^c		Gender (Informal)	
		Informal areas	Formal areas	Tenure	Water connection	A business	Skilled	Unskilled	Male-headed	Female-headed
Average home value (1,000 KSh) ^a	1,005	<u>1,239</u>	<u>938</u>	<u>1,005</u>	<u>1,627</u>	<u>948</u>	<u>994</u>	<u>1,010</u>	<u>1,371</u>	<u>250</u>
N	33	16	17	33	8	14	12	21	13	3
Distribution of home values: Total	100	100	100	100	100	100	100	100	100	100
1-8,999 KSh	2	-	3	2	-	-	7	-	-	-
9,000-299,999 KSh	18	<u>13</u>	<u>20</u>	<u>18</u>	-	<u>13</u>	<u>37</u>	<u>9</u>	<u>4</u>	77
300,000-999,999 KSh	35	<u>21</u>	<u>39</u>	<u>35</u>	<u>18</u>	<u>44</u>	<u>9</u>	<u>47</u>	<u>24</u>	-
1,000,000-2,499,999 KSh	38	<u>58</u>	<u>33</u>	<u>38</u>	<u>79</u>	<u>36</u>	<u>43</u>	<u>36</u>	<u>62</u>	23
2,500,000-250,000,000 KSh	6	<u>9</u>	<u>6</u>	<u>6</u>	<u>3</u>	<u>6</u>	<u>4</u>	<u>8</u>	<u>10</u>	-
N	33	16	17	33	8	14	12	21	13	3
Average monthly rent (tenants) ^b	2,275	<u>1,503</u>	<u>2,613</u>		<u>3,928</u>	<u>2,180</u>	<u>2,652</u>	<u>2,050</u>	<u>1,522</u>	<u>1,453</u>
N	806	424	382		235	179	304	502	332	90
Distribution of monthly rents: Total	100	100	100		100	100	100	100	100	100
1-899 KSh	29	<u>38</u>	<u>25</u>		<u>7</u>	<u>29</u>	<u>18</u>	<u>35</u>	38	39
900-1,499 KSh	16	<u>19</u>	<u>15</u>		<u>9</u>	<u>10</u>	<u>15</u>	<u>17</u>	17	27
1,500-1,999 KSh	14	<u>13</u>	<u>14</u>		<u>10</u>	<u>19</u>	<u>14</u>	<u>14</u>	15	8
2,000-3,499 KSh	19	<u>21</u>	<u>18</u>		<u>21</u>	<u>26</u>	<u>22</u>	<u>18</u>	22	18
3,500-150,000 KSh	22	<u>8</u>	<u>28</u>		<u>54</u>	<u>16</u>	<u>31</u>	<u>17</u>	8	8
N	805	423	382		235	179	304	501	332	89

Notes:

- Self-reported, current, monthly, fair-market price (response to the question, "If you were to sell your house, how much do you think you could sell it for?").
- Excludes imputed owner-occupied rents.
- Includes those self-declared as "skilled" as well as "professional".

Average rent is 2,275 KSh per month. Interestingly, the average rent reported by poor households was higher than the average rent reported by non-poor households—though this difference could not be tested for significance.

C.4 Neighborhood social capital and civic participation

Respondents that own their homes are more likely than renters to participate in their community. Twelve percent of owners attended local councils (compared to only 5% of renters) and 23% attended neighborhood forums (compared to 11% of renters); both proportions are significantly higher than the corresponding proportion of renters. Owners are also more likely to have voted in all types of elections, though none of the differences are statistically significant. In informal areas, significantly more male-headed households voted in the 2007 elections.

About half (53%) of respondents reported that they had an informal community or neighborhood leader. Very few respondents (2%) said that they had participated in a public demonstration or protest.

The survey asked respondents whether people in their neighborhood would cooperate if asked by an official to conserve water or electricity because of an emergency, and whether people in their neighborhood look out for each other. On both questions, the results were positive. When asked if people in their community would cooperate if asked by an official, the results averaged 3.1 on a four-point scale (where 4=“very likely” and 1=“very unlikely” to cooperate). When respondents were asked if they agreed that people look out and trust each other in their neighborhood, answers averaged 3.6 on a five-point scale (where 1=“strongly disagree” and 5=“strongly agree”). On both questions, there were only slight differences between formal and informal areas and people with high and low access to infrastructure, although both differences were statistically significant. Fifty-eight percent of respondents said they felt safe in their own neighborhood. The only statistically significant difference was by residents’ access to infrastructure. In the upper half of infrastructure access, 67% of respondents felt safe in their own neighborhood compared to 48% of respondents in the lower half.

Table C.4a: Neighborhood social capital and civic participation

Characteristic	All	Location		Access to infrastructure ^a		Gender (Informal)		Tenure ^b	
		Informal areas	Formal areas	Lower half	Upper half	Male-headed	Female-headed	Own	Rent
Civic participation									
Percent of households contacting local council	6	6	6	8	5	6	6	12	5
N	972	489	483	485	487	379	108	114	858
attending a neighborhood forum	13	10	14	15	11	10	11	23	11
N	972	489	483	485	487	379	108	114	858
Social activism									
Percent of households voting in local election ^c	25	24	26	25	26	25	24	29	25
N	970	487	483	483	487	378	107	113	857
2007 general election ^c	70	69	71	66	74	73	54	75	70
N	972	489	483	485	487	379	108	114	858
2010 referendum ^c	71	67	73	66	75	68	61	78	70
N	972	489	483	485	487	379	108	114	858
Percent of households with informal community or neighborhood leader	53	58	51	53	53	59	54	62	52
N	956	481	475	476	480	373	106	110	846
Percent of households that took part in a public demonstration or protest	2	2	2	2	2	2	2	1	2
N	972	489	483	485	487	379	108	114	858

Notes:

- Defined by dividing the population in half based on a score assigned using responses from thirteen infrastructure-related questions (see Section 3 of Introduction).
- Alternatively, this could be the length of time living in the neighborhood: less/more than (say) 2 years.
- Out of all households and not just those registered to vote.

Table C.4b: Neighborhood social capital and civic participation

Characteristic	All	Location		Access to infrastructure ^a		Gender (Informal)		Tenure ^b	
		Informal areas	Formal areas	Lower half	Upper half	Male-headed	Female-headed	Own	Rent
Social capital									
Average HH response to:									
People in my neighborhood cooperate if asked by an official ^c	≠3.1	3.0	3.2	3.0	3.2	3.0	3.1	3.2	3.1
N	973	490	483	485	488	380	108	114	859
People in my neighborhood look out for/trust each other ^d	3.6	3.3	3.8	3.3	3.8	3.4	3.2	3.6	3.6
N	973	490	483	485	488	380	108	114	859
Proportion of HHs feeling safe from crime in own neighborhood	58	53	61	48	67	54	49	67	57
N	973	490	483	485	488	380	108	114	859

Notes:

- Defined by assigning scores using responses from thirteen infrastructure-related questions.
- Alternatively, this could be the length of time living in the neighborhood: less/more than (say) 2 years.
- Four-point scale where 1="Very unlikely" to 5="Very likely".
- Five-point scale where 1="Strongly disagree" to 5="Strongly agree".

D.1a Water access

Thirty-three percent of households have a private piped water connection in their dwelling, a proportion which is significantly higher in formal areas (40%) than in informal areas (18%). An additional 58% have piped water in their compound. This varies significantly by area type and respondents' security in their home ownership, where "secure" represents owners who feel no one could force them to leave without an official legal process in which they would participate, "insecure" represents owners who feel they could be forced out, and "rent" represents those who rent their homes and therefore have no security of ownership as well as squatters and those who own their dwelling but not land. Finally, 83% of households are close (within 50 meters) to a source of piped water. On average, it takes respondents over one hour a day to obtain water, including travel to and from the water source, waiting time, and filling time. Water costs an average of 408 KSh a month. Although there was not enough data at the census tract level to test for statistically significant differences between categories of households for the cost of water in time or money, we note that there are numerical differences. Households in informal areas spend more time but less money obtaining water than those in formal areas, female-headed households spend less money and time obtaining water than their male-headed counterparts, and poor households spend less time and money (573 KSh vs. 371 KSh) than wealthier households, perhaps reflecting an overall lack of resources to devote to obtaining water.

Despite the fact that 33% of households have piped water in their dwellings, only one-quarter of respondents report that piped water is their most important water source. Some 44% of households report that a shared yard tap is their most important source of water. Another 15% name water vendors as their most important source of water. Non-poor households are more likely than poor households to obtain water from shared tap connections (52% vs. 40%), and are less likely to use water vendors (10% vs. 17%); both differences are statistically significant. Piped water services are considerably more common in formal areas than in informal settlements, where more households primarily obtain water from vendors and neighbors. In informal areas, male-headed households are significantly more likely to use a well or borehole as their primary source. Of the households that didn't have access to piped water, the main reason given (64%) was because they rented rather than owned their home and their landlord would not pay for a connection; the second most common reason (20%) was inability to afford the initial connection (although relatively few were unable to afford a water bill). Only 5% of respondents reported that the water provider had a waiting list, and 5% said they had other sources available.

Table D.1a: Water access

Characteristic	All	Security of Ownership ^a			Location		House hold poverty		Gender (Informal)	
		Secure	Insecure	Rent	Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Percent of households with private piped water connection inside dwelling	33	37	12	34	18	40	31	38	17	21
N	973	80	34	859	490	483	660	308	380	108
Percent of households with piped water connection in compound	58	71	73	56	50	61	57	62	51	48
N	973	80	34	859	490	483	660	308	380	108
Percent of households close to piped water access ^b	83	92	100	82	81	84	83	85	83	74
N	349	21	8	319	243	106	273	73	187	55
Cost of water in ... Time (minutes) ^c	472	<u>615</u>	<u>296</u>	<u>467</u>	<u>545</u>	<u>420</u>	<u>442</u>	<u>538</u>	<u>547</u>	<u>540</u>
N	464	35	11	418	291	173	328	134	232	59
Money	408	<u>799</u>	<u>465</u>	<u>343</u>	<u>322</u>	<u>451</u>	<u>341</u>	<u>573</u>	<u>338</u>	<u>273</u>
N	542	71	29	442	300	242	366	172	224	74
Most important water source: Total	100	100	100	100	100	100	100	100	100	100
Piped	26	28	8	27	9	33	26	28	9	11
Bottled	0	-	-	-	-	-	-	-	-	-
Shared tap connection	44	43	66	43	43	44	40	52	43	42
Vendor (kiosk, tanker, other)	15	14	5	16	29	9	17	10	28	30
Neighbor(s)	5	7	1	5	9	3	5	4	8	13
Well/borehole	9	8	20	9	9	9	11	6	11	4
Natural source outside household	1	-	-	1	1	1	1	-	1	-
N	973	80	34	859	490	483	660	308	380	108
No connection due to:	100	100	100	100	100	100	100	100	100	100
Other sources available	5	<u>12</u>	<u>31</u>	<u>4</u>	<u>7</u>	<u>4</u>	<u>6</u>	<u>2</u>	<u>8</u>	<u>3</u>
Renting ^d	64	<u>7</u>	<u>5</u>	<u>70</u>	<u>70</u>	<u>59</u>	<u>62</u>	<u>70</u>	<u>72</u>	<u>65</u>
Can't afford connection	20	<u>53</u>	<u>64</u>	<u>16</u>	<u>17</u>	<u>23</u>	<u>20</u>	<u>24</u>	<u>14</u>	<u>24</u>
Can't afford monthly bill	2	-	-	2	2	2	3	-	1	3
Provider has waiting list	5	<u>21</u>	-	<u>4</u>	<u>4</u>	<u>6</u>	<u>6</u>	<u>1</u>	<u>5</u>	<u>4</u>
No service available	3	<u>6</u>	-	<u>3</u>	-	<u>5</u>	<u>3</u>	<u>2</u>	-	-
Other	0	-	-	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	-	<u>1</u>
N	348	21	8	319	243	105	273	73	187	55

Notes:

- Self-reported; "secure" includes owners who feel no one could force them to leave without an official legal process in which they would participate, "insecure" includes owners who feel they could be forced to leave without an official legal process, and "rent" includes renters, squatters, and people who own their structure but not land.
- Respondents were asked whether there were dwellings or businesses within 50 meters of their home that had a piped water connection in the dwelling or compound.
- Calculated as the sum of time spent travelling, waiting in line, and filling containers.
- House does not have a connection and landlord will not pay for one.

D.1b Water quality

Water quality is generally rated “good” or “fair,” although 71% of the households that obtain water from a natural source and 66% using wells or boreholes rate their water quality to be fair.

Almost all respondents purchase their water from a public utility (99%). Only 34% of the households in Eldoret treat their water in any way; of those that treat water, most boil it (66%) or add bleach or chlorine (39%).

Table D.1b: Water quality

Characteristic	All	House hold poverty		Location		Water quality				Gender (Informal)		
		Poor	Non-poor	Informal areas	Formal areas	Good	Fair	Poor	Total	N	Male-headed	Female-headed
Water source: ^a Piped	26	26	28	9	33	<u>75</u>	<u>22</u>	<u>3</u>	100	199	9	11
Bottled	0	-	-	-	-	-	-	-	-	0	-	-
Shared tap connection	44	40	52	43	44	<u>63</u>	<u>34</u>	<u>3</u>	100	401	43	42
Other vendor	15	17	10	29	9	<u>63</u>	<u>32</u>	<u>4</u>	100	206	28	30
Neighbor(s)	5	5	4	9	3	<u>64</u>	<u>27</u>	<u>9</u>	100	54	8	13
Well/Borehole	9	11	6	9	9	<u>29</u>	<u>66</u>	<u>5</u>	100	105	11	4
Natural outside-House hold source	1	1	-	1	1	<u>23</u>	<u>71</u>	<u>6</u>	100	8	1	-
N	973	660	308	490	483	555	374	44			380	108
Water provider: Public	99	99	99	98	99	<u>66</u>	<u>30</u>	<u>4</u>	100	615	98	98
Private	0	-	0	-	0	<u>100</u>	-	-	100	1	-	-
Self	1	1	0	2	0	<u>100</u>	-	-	100	6	2	2
Community	0	0	-	-	0	-	<u>100</u>	-	100	1	-	-
N	623	387	233	247	376	377	224	22			193	53
Percent of households treating drinking water	34	34	36	32	35	<u>52</u>	<u>43</u>	<u>5</u>	100	342	34	24
N	973	660	308	490	483	555	374	44			380	108
Treatment method: ^b Boiling	66	<u>70</u>	<u>58</u>	<u>67</u>	<u>65</u>	<u>50</u>	<u>46</u>	<u>4</u>	100	239	<u>67</u>	<u>69</u>
Add bleach/chlorine	39	<u>35</u>	<u>46</u>	<u>34</u>	<u>40</u>	<u>48</u>	<u>48</u>	<u>4</u>	100	111	<u>34</u>	<u>36</u>
Other (sieve, filter, settle)	3	<u>3</u>	<u>2</u>	<u>3</u>	<u>3</u>	<u>40</u>	<u>24</u>	<u>36</u>	100	10	<u>3</u>	<u>2</u>
N	342	226	113	167	175	168	154	20			137	30

Notes:

a. Most important water source.

b. Since multiple responses were permitted, the sum can exceed 100%. Likewise, “Other” is not shown, since it was negligible, so the sum may also be less than 100%.

D.2a Electricity and waste-disposal services

Sixty-five percent of respondents reported access to electricity, a figure that differs significantly by poverty (76% of non-poor vs. 61% poor) and settlement type (71% in formal vs. 53% in informal). Reasons for not having a connection are similar to those for water—the primary reason reported was that households did not own their home and didn't have a choice (58%), followed by inability to pay for the initial connection (31%). Only 16% of respondents reported functional street lighting in their area, which differs significantly between formal and informal locations (25% vs. 13%).

The average monthly bill for those with electricity is 787 KSh a month. Eight percent of households with electricity do not pay for it. Electricity payments are primarily made to the public utility (97%), although a few respondents pay their landlord instead (2%). Even when electricity is available, it is not particularly reliable; 20% of respondents experience outages on a weekly basis or more.

Half of all households reported getting rid of their refuse by dumping it in their neighborhood or compound; this is significantly more common among poor households than non-poor households.

Households in formal settlements and non-poor households are twice as likely to use a collection system as households in informal settlements and poor households, respectively. Interestingly, the proportion of female-headed households that use a collection system to dispose of refuse is double that of male-headed households (14% vs. 7%). In addition, considerably more male-headed households bury their refuse than female-headed households (18% vs. 9%).

Table D.2a: Access to electricity and waste-disposal

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Electricity							
Proportion of households with access to electricity	65	53	71	61	76	53	54
N	973	490	483	660	308	380	108
Reason for no connection: Total	100	100	100	100	100	100	100
Renters	58	<u>62</u>	<u>55</u>	<u>58</u>	<u>55</u>	<u>63</u>	<u>63</u>
Firm has waiting list	6	<u>9</u>	<u>4</u>	<u>5</u>	<u>10</u>	<u>9</u>	<u>9</u>
Cannot afford connection	31	<u>27</u>	<u>34</u>	<u>33</u>	<u>26</u>	<u>25</u>	<u>28</u>
Cannot afford monthly bill	5	<u>2</u>	<u>7</u>	<u>4</u>	<u>8</u>	<u>3</u>	-
Other	0	-	0	-	1	-	-
N	363	221	142	280	80	168	52
Percent of households with mostly functioning street lighting	16	25	13	16	17	25	26
N	974	490	484	660	308	380	108
Average monthly bill, KShs	787	<u>746</u>	<u>796</u>	<u>650</u>	<u>1047</u>	<u>761</u>	<u>690</u>
N	974	490	484	660	308	380	108
Percent of households not paying for electricity	8	<u>10</u>	<u>8</u>	<u>9</u>	<u>8</u>	<u>7</u>	<u>21</u>
N	326	117	209	194	130	87	29
Payment to: Total	100	100	100	100	100	100	100
Utility	97	<u>94</u>	<u>98</u>	<u>97</u>	<u>97</u>	<u>95</u>	<u>88</u>
Prepaid card	1	-	<u>1</u>	<u>1</u>	-	-	-
Landlord	2	4	1	2	2	3	9
Third party (from utility power line)	1	<u>2</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>4</u>
N	292	107	185	174	116	82	24
Percent of households with outages at least once weekly	20	<u>22</u>	<u>19</u>	<u>21</u>	<u>16</u>	<u>20</u>	<u>26</u>
N	608	267	341	378	228	210	56
Refuse disposal							
Main method:							
Dumping	50	56	47	54	40	55	60
Burying	12	16	11	11	14	18	9
Burning	23	20	25	23	24	21	17
Collection system ^a	14	8	16	11	21	7	14
N	972	489	483	660	307	379	108
Proportion of HHs paying for collection	68	<u>60</u>	<u>69</u>	<u>69</u>	<u>65</u>	<u>51</u>	<u>76</u>
N	115	31	84	55	59	22	9

Notes:

a. Run by city, community, or private firm.

D.2b Access to sanitation services

Only 22% of households reported that they have a toilet in their home, and this significantly varies by location; whereas 29% of households in formal areas have a toilet at home, only 5% of those in informal settlements have one. Most households use a pit latrine (49%), a flush toilet (30%), or a public latrine (20%). Households in formal settlements are much more likely to use a flush toilet and less likely to use a public latrine or pit latrine. The majority of households (73%) share a toilet with several other families. Compared to households in informal areas, significantly more households in formal areas do not share toilets at all; while significantly fewer share with 10 or more other households. Most toilets (66%) drain into pits; more than a quarter of them (27%) use toilets connected to a sewage system, and only 7% have a septic tank instead.

Table D.2b: Access to sanitation

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Percent of households with toilet in home	22	5	29	20	26	4	9
N	973	490	483	660	308	380	108
Type of toilet system: Total							
Pit latrine (individual)	49	65	43	52	45	66	59
VIP latrine	1	0	1	0	1	1	-
Flush toilet/WC	30	13	37	27	36	13	16
Public/shared latrine	20	21	19	20	18	20	25
Paid shared latrine	0	-	-	-	-	-	-
N	973	490	483	660	308	380	108
Percent of households sharing toilet:							
Doesn't share	27	13	33	26	29	12	17
Shares with 2-9 other households	51	55	49	53	46	56	53
Shares with 10+ other households	22	32	18	21	24	33	30
N	969	488	481	657	307	378	108
Type of disposal system for toilet:							
Total	100	100	100	100	100	100	100
Pit latrine	66	85	59	69	59	59	85
Sewer (legal)	27	14	33	27	27	33	14
Sewer (informal)	0	0	0	0	-	0	-
Septic tank/soak pit	7	2	9	4	14	8	1
N	862	425	437	588	270	329	94
Disposal of "grey water": Total							
Total	100	100	100	100	100	100	100
Dump into drain	39	27	44	41	36	26	28
Pour onto road	56	70	50	56	54	71	70
Pour into latrine	1	2	0	0	2	2	2
Other	4	1	6	2	8	1	0
N	971	489	482	659	307	379	108

“Grey water” (waste water from washing, cleaning, etc.) is generally poured out into the road or dumped down the drain. Households in formal settlements are more likely to dump their grey water down the drain than pour it into the street, and less likely to pour it into the latrine.

D.3 Access to transport

Most individuals (64%) work or study outside their neighborhood rather than inside. Individuals from households in formal areas are more likely to work or study outside their neighborhood than those in informal areas. Practically all respondents commute on foot (58%) or via a matatu (37%).¹⁵ Students, people in informal areas, poor households, and female-headed households are significantly more likely to walk than workers, and typically less likely to use a matatu. One percent of household members in the highest spending quartile drove to work or school in their own vehicle.

Average one-way transport time is 24 minutes. Respondents take slightly longer trips to school than to work. Of the respondents that had to pay to travel, the average one-way cost is 67 KSh.

Table D.3: Access to transport

Characteristic	All	House hold activity ^a		Location		House hold poverty		Gender (Informal)	
		Work	Study	Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Percent who work or study...									
inside the neighborhood	33			37	32	34	32	36	47
outside the neighborhood	64			57	66	63	65	58	49
inside and outside the neighborhood	3			6	2	3	3	6	4
N	1,428			678	750	958	461	564	111
Main mode of travel ^b Walk	58	51	81	65	55	63	47	62	76
Bicycle	1	2	0	1	1	1	2	2	-
Own vehicle	1	0	0	0	1	0	2	0	-
Matatu	37	43	18	32	39	34	44	34	22
Shared taxi	0	-	-	-	0	0	-	-	-
Bike taxi	1	1	0	1	1	0	1	1	0
Municipal bus	1	0	0	0	1	0	1	0	-
N	2,044	554	444	998	1,046	1,398	633	812	182
Transport time (minutes)	24	22	23	23	25	23	26	23	21
N	2,031	553	440	993	1038	1392	627	808	181
One-way trip cost to work/school (KSh)	67	<u>37</u>	<u>86</u>	<u>50</u>	<u>73</u>	<u>73</u>	<u>56</u>	<u>48</u>	<u>58</u>
N	768	246	86	332	436	458	302	285	47
Households with road access as:	38			45	35	37	40	47	37
Poor									
Good	62			55	65	63	60	53	63
N	973			490	483	660	308	380	108
Percent of households with limited road access during rainy season	21			23	20	21	21	22	26
N	973			490	483	660	308	380	108

¹⁵ A “matatu” is a 14-seater minivan used throughout Kenya as a form of public transport.

Sixty-two percent of respondents said that their access to roads is generally good. Twenty-one percent of households have limited road access during the rainy season.

D.4 Access to communications

While land lines are practically nonexistent among households in Eldoret, mobile phone ownership is widespread. The average household owns 1.4 mobile phones. The number owned varies significantly by area type and, in informal areas, the gender of the household head. A remarkably large number of those with mobile phones use mobile banking (76%), with significant differences by area type, poverty, and the gender of the household head. On the other hand, relatively few respondents have a computer (5%), though the rate of computer ownership is significantly higher in formal areas and among non-poor households. Only 13% reported accessing the internet using any means, a figure which is significantly higher among households in formal settlements than informal settlements (16% vs. 8%), among non-poor households than poor households (23% vs. 9%), and among male-headed households than female-headed households (10% vs. 2%).

Table D.4: Access to communications

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Percent of households with functioning land line	0	-	0	0	1	-	-
N	973	490	483	660	308	380	108
Average number of mobile phones owned by household	1.4	1.2	1.5	1.4	1.5	1.3	0.8
N	972	489	483	659	308	379	108
Percent of households using mobile banking	76	69	79	73	83	72	58
N	973	490	483	660	308	380	108
Percent of households with functioning computer	5	1	6	3	9	2	-
N	973	490	483	660	308	380	108
Percent of households using internet (any means)	13	8	16	9	23	10	2
N	973	490	483	660	308	380	108

D.5 Access to infrastructure indicator

The access to infrastructure indicator combines six categories of infrastructure (divided into 13 subcategories) weighted by importance to the household and summed to create a household indicator from 0 to 9.5.¹⁶ Higher scores represent better access to infrastructure. This indicator provides an overall understanding of a household’s infrastructure access. By averaging households’ scores on the indicator, we can quickly compare infrastructure access in informal and formal areas, between poor and non-poor households, and between male- and female-headed households in informal areas.

¹⁶ The 13 subcategories are: piped water (1 point); shared/indirect connection (0.5 points); direct electricity access (1); street lighting (0.5); garbage collection system (1); own toilet (1); shared toilet with less than 20 other people (0.5); legal sewer system for toilet (0.5); grey water not poured onto street (0.5); good road access at dwelling (0.5); road access not limited during rainy season (0.5); no flooding (1); no mudslides (1).

Table D.5 presents household mean scores on the access-to-infrastructure indicator. The mean score across all households in Eldoret is 4.22. Households in formal areas score significantly higher than households in informal areas, and the difference in mean scores is quite large—greater than one. There are also significant differences between poor and non-poor households (4.09 vs. 4.54), but the magnitude of this difference is far less than the difference between formal and informal areas.

Table D.5: Access to infrastructure indicator

Characteristic	All	Location		House hold poverty		Gender (Informal)	
		Informal areas	Formal areas	Poor	Non-poor	Male-headed	Female-headed
Mean score on access to infrastructure indicator	4.22	3.48	4.53	4.09	4.54	3.43	3.70
N	974	490	484	660	308	380	108

CONCLUSIONS

The following three figures are “Development Polygons”. These polygons are meant to complement the detailed tables presented in sections A through D by illustrating an “overall” sense of the state of the city. We present information for all areas, along with formal and informal areas, in each of the three figures: the Development Diamond, the Infrastructure Polygon, and the Living Conditions Diamond.¹⁷ In all figures, the value labels included provide the value of the indicator for all areas. The statistics underlying these figures are also in the tables, above. Similar graphics also appear in the City-at-a-Glance Reports and the Overview Report produced under the NORC contract.

The axes for all figures represent percentages. Polygons with larger areas represent “better” situation in regards to the associated indicator(s). Hence, a polygon with full coverage would indicate that the city is doing very well in terms of development, infrastructure, or living conditions. The Development Diamond (Figure 1) maps four indicators of poverty—welfare, employment, education, and living conditions. In three quarters of the development diamond—welfare, employment, and education—formal and informal areas are similarly situated. However, households in formal areas far outpace the households in informal areas in terms of living conditions—in formal areas, a much larger percentage of households have permanent walls and access to both piped water and electricity (35% vs. 11% in informal areas and 28% overall).

Figure 1: Development diamond

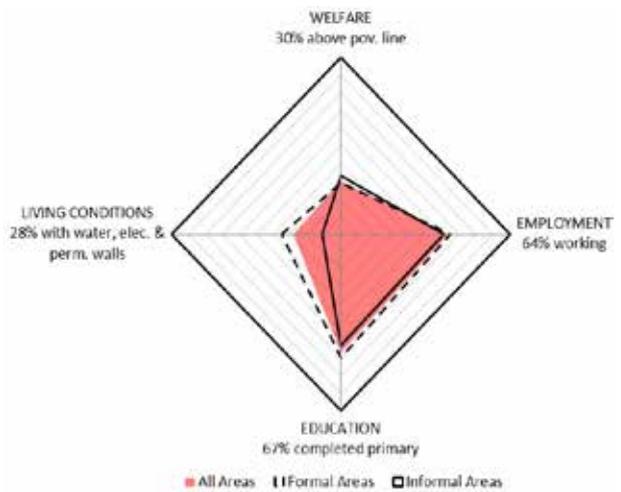
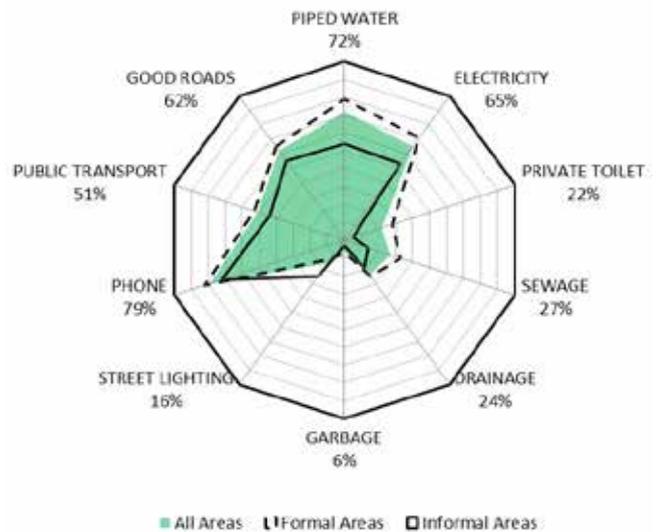


Figure 2: Infrastructure polygon



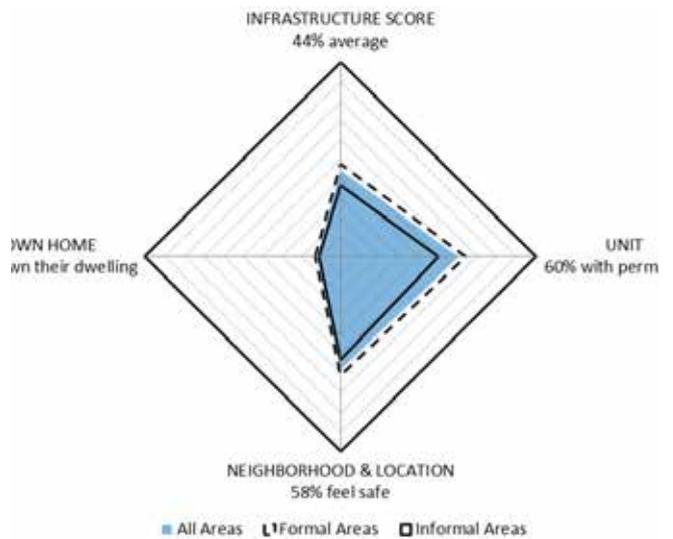
The Infrastructure Polygon, shown in Figure 2, presents residents’ access to ten different types of infrastructure—piped water, electricity, private toilets, sewage, drainage, garbage collection, street lighting, mobile phones, public transport, and good roads. Piped water and electricity are much more prevalent in formal areas (79% and 71%, respectively) than informal areas (54% and 53%), though over half of the population in all areas has access to each. Private toilets are much less common overall, but we still find large differences by area type—only 5% of households in informal areas, compared to 28% in formal areas, have a private toilet. Sewage

¹⁷ The basic format for all three figures appear in the World Bank Policy Research Working Paper, “Poverty, Living Conditions, and Infrastructure Access” A Comparison of Slums in Dakar, Johannesburg, and Nairobi” by Sumila Gulyani, Debabrata Talukdar, and Darby Jack (2010). We strived to make our own figures as similar as possible, though some deviations, noted in the accompanying text, were necessary.

follows a similar trend. Twenty-five percent of households or less have drainage or garbage collection. Interestingly, more households in informal areas report functioning street lighting than do households in informal areas—25% versus only 13%. Mobile phone usage is nearly ubiquitous, as 72% of households in informal areas and 82% of households in formal areas own one or more mobile phones. About half of all households report using public transport—44% in informal areas and 53% in formal areas. Finally, 62% of households (55% in informal areas and 65% in formal areas) said that their access road was in good condition.

Figure 3 presents the Living Conditions Diamond. The four axes of this diamond are the infrastructure score (scaled to a percentage of the total possible points), unit conditions, neighborhood and location, and home ownership. The first three indicators have coverage around 50%, with informal areas, scoring below formal areas. Home ownership, on the other hand, is quite rare. The largest difference between formal and informal areas occurs on the unit indicator—50% of households in informal areas have permanent walls, while 64% of households in formal areas do. Households in formal and informal areas are most similar in terms of home ownership, where 11% of households in informal areas own their home compared to 12% of households in formal areas.

Figure 3: Living Conditions diamond



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